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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,267	08/14/2001	Hans-Wulf Pfeiffer	03466-P0001B	9985
24126	7590	03/29/2005	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC			HOFFMANN, JOHN M	
986 BEDFORD STREET			ART UNIT	
STAMFORD, CT 06905-5619			PAPER NUMBER	
			1731	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/929,267	Applicant(s) PFEIFFER, HANS-WULF	
	Examiner John Hoffmann	Art Unit 1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

#### **2164.01(a) Undue Experimentation Factors**

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Examiner has considered these factors as follows:

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(A) The claims are directed to all ceramic materials/workpieces –except for those which include zirconia. Thus the claim would encompass working on plate glass windows, common bricks, ceramic toilets, drinking glasses, enameled products, ceramets, carbon composites, etc. Broadly speaking, of man-made materials, there are types: metals, plastics and ceramics. In as sense, the claims encompass a massive genus of materials. One would have to expect some universal material property to be present, in order for the invention to work on the entire breadth of the claims. It is noted examiner does not agree with applicant's position that the claims are limited to "true ceramics" (whatever that would mean)

(B) The nature of the invention does not lend itself as evidence to show the invention is not enabled.

(C) The state of the prior art is that applicant's invention cannot be done.

Applicant's specification is clear that the state of the prior art would be one where one would not expect to be able to use the invention, (starting on page 4, line 2 "neither been known nor been applied in practice without elevating the temperature...it is presumed that due to brittle characteristics the mechanical stress...results in damage – not an increase of the strength". And in [0010] ceramic "components would simply be too brittle for resisting the blast energy". [0011] states "[i]n general, brittle, hard materials such as ceramics are denied to have the ability to undergo a plastic deformation at room temperature." [0013] says indicates that the type of processing the claims are directed to, "can, as a matter of nature, not be expected in ceramic materials". The Background section contains still further admissions which demonstrate with little doubt that one would expect that applicant's invention has no basis for

Rice 5228245, indicates such processing will work only on "certain materials" (col. 1, line 18); namely, a very small niche – those that have hafnia or zirconia. Thomas 3573023 indicates that aluminum oxide materials require an elevated-temperature environment.

The prior art recognizes the invention to work in very limited instances: e.g. those ceramic materials that are actually composites with metals – for example cermets; and specialized materials of the type discussed in Rice.

(D) The level of one of ordinary skill does not lend itself as evidence to show the invention is not enabled.

(E) The level of predictability in the art does not lend itself as evidence to show the invention is not enabled.

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(F) The amount of direction provided by the inventor is low. There is no indication or suggestion as to what ceramics might work or what amount of force is needed to get the strengthening effect. The only thing indicated is that there is good direction on the type of tool needed (size and shape).

(G) There is no working example.

(H) The quantity of experimentation is unknown. The prior art indicates the invention would not work.

Given all the above factors, the references of record, and the specification, it is deemed the claims are not enabled. That applicant solved a decade-old problem, that the problem is a problem that the prior art suggests cannot be solved based on the "matter of nature", and that there is no evidence or examples provided that suggests that Applicant ever achieved the solution – it is deemed that a lack of enablement exists.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brookes in view of Thomas, Rokutanda, and the Abstract of JP 041098675.

See the rejection in the Office action of 12/24/2003 which discloses why the invention is obvious.

As to the newly added language that the workpiece is "consisting of ceramic". This is met because the relevant references disclose that the item is a ceramic material.

Alternatively and/or additionally, it is note that Applicant takes issue with Thomas's cemented ceramics. Although the claim indicates the workpiece consists of ceramic, the claim itself is "comprising" thus the claim is open to an additional step. For example, the process would read on: starting with a workpiece consisting of ceramic, then adding a non-ceramic feature thereto, then providing a tool, etc. Presently, it would have been obvious to create the Thomas cemented ceramic by starting out with a workpiece that consisting of ceramic, and then adding/cementing metal thereto.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brookes, Thomas, or the Abstract of JP 041098675 in view of Rice.

See the rejection in the Office action of 4 September 12/24/2003 which discloses why the invention is obvious.

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### ***Response to Arguments***

Applicant's arguments filed 2/22/05 have been fully considered but they are not persuasive.

Regarding the determination that claims are not enabled: It is argued that the claims do not encompass composite materials. Even if this is true, it does not discount the holding that the claims cover a massive genus of materials. It is noted that Applicant does not disagree that the claim covers an massive genus of materials.

Furthermore, the declaration has been considered, but it is not found to be persuasive. First it is noted the declaration fails to address what the claim meant at the time of the invention (1997), rather the declaration by Pfeiffer seems to be limited to what term “ceramic” meant in 2004.

As stated previously, Pfeiffer’s definition seems to be reasonable, but it does not appear to be the broadest reasonable definition.

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The PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. Hyatt, 211 F.3d at 1372. The “broadest reasonable interpretation” rule recognizes that “before a patent is granted the claims are readily amended as part of the examination process.” Burlington Indus. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). Additionally, the broadest reasonable interpretation rule “serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.” In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)).

When determining whether Applicant’s definition for “ceramic” was proper, examiner also considered the prior art – for example Thomas 3,573,023. The Title thereof refers to “ceramic materials” and the specification thereof discloses cermets. Examiner also considered text books, for example Kingery et al., Introduction to Ceramics, 2<sup>nd</sup>. Page 3 starts out: We define ceramics as the art and sciences of making and using solid articles which have as their essential component, and are composed in a large part of, inorganic non-metallic materials. Kingery page 573-575 identify cermats as being “particularly important” part of the ceramic industry. Furthermore, Figure 11.37(a) of Kingery, shows a cermet of 96% WC: this is clearly the “essential component”. 96% is a “large part” and WC is an inorganic, non-metallic material. Examiner also considered that the declarant has an interest on how the term “ceramic” is interpreted, and that applicant has not supplied any other evidence.

Considering all the above evidence, it is deemed that the claim term “ceramic” does not exclude cermets or cemented carbides.



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Regarding B) The Nature of the Invention, applicant points to various parts of the specification. The relevance of these arguments is not understood. The arguments do not point out how they relate to the NATURE of the invention.

Regarding C) the state of the art. It is argued that the fact that others have not been able to solve the long-standing problem is not evidence that the invention is not enabled. This is not persuasive. As indicated in the rejection, it is a factor that must be considered: it cannot be dismissed out of hand. On the contrary, if the prior art says something cannot be achieved and many people have tried to achieve it, it is a strong suggestion that it maybe impossible. When the prior art suggests it cannot be done, there is a reasonable burden upon applicant to demonstrate that it can be done. Applicant assertion that it can be done (with no evidence to support such) is insufficient.

Regarding F) The amount of direction provided by the inventor. The arguments made by applicant are not understood, or at least not very relevant. As indicated above, Examiner concluded that the amount of direction provided was "low" because it does not indicate/suggest what ceramics might work. Applicant has not pointed out how the amount of direction was not "low". Whereas applicant points out that cermets and cemented carbides would not work, this is not the same thing as pointing out what would work. Even a teaching that two types of ceramics would not work would still rate a "low" amount of direction.

Considering all the required factors once again, it is deemed that the invention is not enabled.

Regarding the prior art, it is argued that the claim defines over the prior art because the workpiece may not comprise other materials such as metal as taught by the '023 patent. First of all, see the discussion in the rejection which points out how the limitation is met. Furthermore, col. 3, line 55 of '023 clearly indicates "true ceramics"; the fact that '023 teaches metal/ceramics composites does not diminish the fact that '023 teaches true ceramics.

It is further argued that since Examiner admits in the enablement rejection that the prior art recognizes the invention cannot be done, that the invention would not be obvious. There is no prohibition against the Office taking contradictory positions. Presently, there is disagreement as to what the present claims cover. If, in fact, the present claims encompass the materials of the applied prior art, then of course the invention is enabled. However if the claims do not encompass the materials of the applied prior art, then the invention is not enabled.

It is further argued that the prior art does not teach increasing the boundary layer strength by impacting the workpiece. The relevance is not understood because the claims do not appear to require a step of impacting. More importantly, the last two lines of Thomas's claim 1 disclose shot peening – this is a step of impacting.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

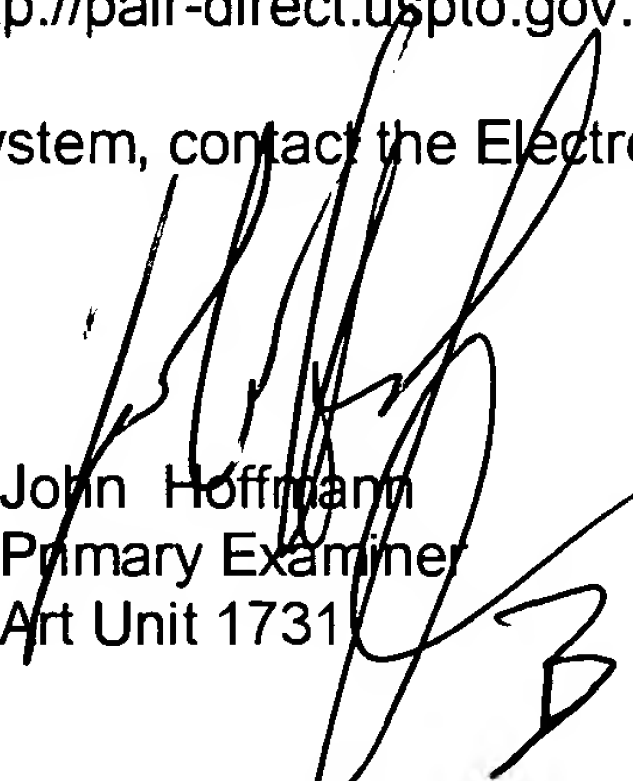
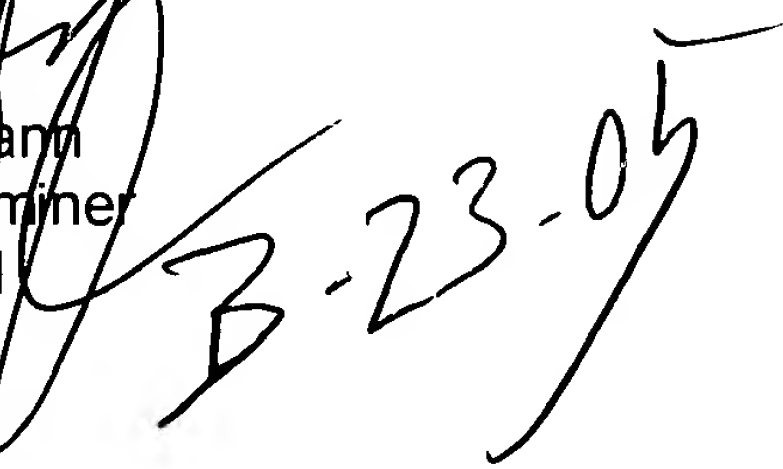
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann  
Primary Examiner  
Art Unit 1731  


jmh